

NEW UNITED STATES UTILITY PATENT APPLICATION
under 37 C.F.R. 1.53(b)

Atty. Docket No. 01359.00002

Assistant Commissioner of Patents
Box Patent Applications
Washington, D.C. 20231

Enclosed herewith is a new patent application and the following papers:

First Named Inventor (or application identifier): Abel Jacobus RAUTENBACH

Title of Invention: Immobilisation Device

1. ☒ Specification 10 pages (including specification, claims, abstract) / 23 claims (2 independent)
2. ☒ Declaration/Power of Attorney is:
☒ attached in the regular manner.
☐ NOT included, but deferred under 37 C.F.R. § 1.53(f).
3. ☒ 1 Distinct sheets of ☒ Formal ☐ Informal Drawings
4. ☒ Preliminary Amendment.
5. ☐ Information Disclosure Statement
☐ Form 1449
☐ A copy of each cited prior art reference
6. ☐ Assignment with Cover Sheet.
7. ☒ Priority is hereby claimed under 35 U.S.C. § 119(e) based upon the following application(s):

Application Serial No.	Date of Filing (Day, Month, Year)	Status-Patented, Pending, Abandoned
60/156,597	29/09/99	Pending

8. ☐ Priority document(s).
9. ☒ Statement Claiming Small Entity Status.
10. ☐ Microfiche Computer Program (Appendix).
11. ☐ Nucleotide and/or Amino Acid Sequence Submission.
☐ Computer Readable Copy.
☐ Paper Copy (identical to computer copy).
☐ Statement verifying identity of above copies.

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Page 2

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12. Calculation of Fees:

FEES FOR	EXCESS CLAIMS	FEE	AMOUNT DUE
Basic Filing Fee (37 C.F.R. § 1.16(a))			\$690.00
Total Claims in Excess of 20 (37 C.F.R. § 1.16(c))	3	48.00	\$54.00
Independent Claims in Excess of 3 (37 C.F.R. § 1.16(b))	0	78.00	\$0.00
Multiple Dependent Claims (37 C.F.R. § 1.16(d))	0	260.00	\$0.00
Subtotal - Filing Fee Due			\$744.00
	REDUCE BY (%) (\$)		
Reduction by 50%, if Small Entity (37 C.F.R. §§ 1.9, 1.27, 1.28)	0.50		\$372.00
TOTAL FILING FEE DUE			\$372.00
Assignment Recordation Fee (if applicable) (37 C.F.R. § 1.21(h))	0	40.00	\$0.00
GRAND TOTAL DUE			\$372.00

13. PAYMENT is:

- ☒ included in the amount of the GRAND TOTAL by our enclosed check. A general authorization under 37 C.F.R. § 1.25(b), second sentence, is hereby given to credit or debit our Deposit Account No. 19-0733 for the instant filing and for any other fees during the pendency of this application under 37 C.F.R. §§ 1.16, 1.17 and 1.18.
- ☐ not included, but deferred under 37 C.F.R. § 1.53(f).

14. All correspondence for the attached application should be directed to:

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1001 G Street, N.W.
Washington, D. C. 20001-4597
Telephone: (202) 508-9100
Facsimile: (202) 508-9299

15. Other: _____

Date: 9/28/00

By: Brian E. Hanlon
Brian E. Hanlon
Reg. No. 40,449

Applicant or Patentee: _____
Serial or Patent No: _____ Docket No: _____
Filed or Issued: _____ Examiner: _____
For: _____ Art Unit: _____

**VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) and 1.27(c) - INDEPENDENT INVENTOR)**

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled "IMMOBILISATION DEVICE" described in

☒ the specification filed herewith
☐ application serial no. _____, filed _____
☐ patent no. _____, issued _____

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

☒ no such person, concern, or organization
☐ persons, concerns or organizations listed below*

*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

FULL NAME: _____

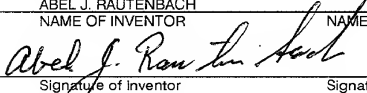
ADDRESS: _____
☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

FULL NAME: _____

ADDRESS: _____
☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate (37 CFR 1.28(b)).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

ABEL J. RAUTENBACH		
NAME OF INVENTOR	NAME OF INVENTOR	NAME OF INVENTOR
		
Signature of Inventor	Signature of Inventor	Signature of Inventor
09/18/2000		
Date	Date	Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of)
) Attn: Application Branch
Abel Jacobus Rautenbach)
)
Serial No.: To Be Assigned)
)
Filed:) Attorney Docket: 01359.00002
)
For: **Immobilisation Device**)

PRELIMINARY AMENDMENT

Assistant Commissioner of Patents
Washington, D. C. 20231

Sir:

Prior to examination, please amend the instant application as follows:

IN THE SPECIFICATION:

Page 1, after the title and before the "**INTRODUCTION TO THE INVENTION**", please
insert the following paragraph:

--Benefit of the September 29, 1999 filing date of the provisional application Serial No.
60/156,597 by the same inventor and entitled "Immobilisation Device" is hereby claimed.--

REMARKS

Examination on the merits of the instant application is respectfully requested.

Respectfully submitted,

By: Brian E. Hanlon
Brian E. Hanlon
Reg. No. 40,449

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Date: 9/28/00

UNITED STATES OF AMERICA

SPECIFICATION

TO WHOM IT MAY CONCERN

BE IT KNOWN that I/We ABEL JACOBUS RAUTENBACH

a South African citizen, whose full post office address/es is/are:

Avoca, Reitz, Free State Province, Republic of South Africa

have invented

"IMMOBILISATION DEVICE"

of which the following is a specification:

IMMOBILISATION DEVICE

INTRODUCTION TO THE INVENTION

This invention relates to a device for use in partially or fully immobilising animals.

BACKGROUND TO THE INVENTION

- 5 Immobilization of animals is necessary in order to perform a variety of operations on them. These include slaughtering, medical procedures, identification procedures and the like.

Various methods are known for achieving immobilisation. Amongst these and relevant to this invention is the application of electrical currents to nerves to interfere with their function. Such application may be via electrodes placed on the skin of the animal.

OBJECT OF THE INVENTION

- 5 An object of this invention is to provide a device for the application of electrical currents to animals for the purpose of immobilising them.

SUMMARY OF THE INVENTION

10 According to the invention a device for use in immobilising animals comprises an elongated probe having a rear end and a front end for insertion into the anal canal of an animal, the probe having first and second electrodes spaced from each other on the outer surface thereof and electrical conductors extending from the electrodes and adapted for connection to an electrical power source.

Further according to the invention the elongated probe is of right circular cylindrical configuration with the front end being a tapered rounded tip.

- 15 Still further according to the invention the first electrode is of annular configuration and is located near the front end of the probe and the second electrode is of annular configuration and is located near to the first electrode.

Still further according to the invention the first and second electrode are separated by an annular groove in the probe.

- 20 Still further according to the invention the second electrode extends from a position near the first electrode to the rear end of the probe.

Still further according to the invention the electrodes are stainless steel electrodes.

Still further according to the invention the first electrode is a positive electrode and the second electrode is a negative electrode.

Still further according to the invention there is an indicator light at the rear end of the probe.

5 Still further according to the invention the device includes a power source for connection to the electrical conductors and hence the electrodes, the power source being adapted to supply a pulsed or alternating electrical current to the electrodes, the electrical current being between about 250 and 400 mA and having a voltage of between 1 and 11 volts and a frequency of between 20 and 50 Hz.

10 Still further according to the invention the voltage is between 2 and 10 volts and the frequency is about 30 Hz.

The invention also provides a method of immobilising an animal which includes inserting a probe having a pair of electrodes into an animal's anal canal and applying an electrical current through the electrodes.

15 Further features of the invention provide for the electrical current to be pulsed or alternating; for the current potential to be between 1 and 11 volts, preferably between 2 and 10 volts; for the frequency to be between 20 and 50 Hz, preferably 30 Hz; and for the current to be between about 250 and 400 mA.

BRIEF DESCRIPTION OF THE DRAWINGS

20 One embodiment of the invention described by way of example only follows with reference to the accompanying drawings in which:

FIG. 1 is a general elevation of a device according to the invention; and

FIG. 2 is a sectional elevation of the probe of the device.

DETAILED DESCRIPTION WITH REFERENCE TO THE DRAWINGS

In this embodiment of the invention a device (1) for use in immobilising animals, especially domestic ungulates such as cattle, sheep, goats and the like is provided.

- 5 The device (1) comprises a probe (2) for insertion in the anal canal of the animal and a power source (3) to which the probe is connected.

As may be seen from Figure 2 the probe (2) is elongated and is basically right circular cylindrical in shape with a tapered rounded front end (4) and a substantially flat circular rear end (5). The body of the probe is made from an electrically insulating material which is preferably a cast settable material such as an epoxy.

- 15 The probe (2) comprises a first electrode (6) and a second electrode (7). The first electrode (6) is an annular stainless steel electrode which is relatively short in length and which is located adjacent the tip (4) of the probe (2). This is the positive electrode. The second electrode (7) is an annular stainless steel electrode which is co-axial with the first electrode (6) and separated therefrom by means of a shallow annular groove (8). This second electrode is much longer than the first electrode (6) and in fact constitutes the major portion of the length of the probe.

- 20 Within the probe are a pair of electrical conductors (9) which extend from the first and second electrodes (6) and (7) through a sheath (12) extending generally co-axially along the length of the probe and emerging from the rear end (5) thereof.

At the second end (5) of the probe is a small light emitting diode (13) which is connected to the electrical conductors (9) and which is adapted to indicate whether there is an electrical potential across the two electrodes (6) and (7).

The internal body (14) of the probe (2) is made from a settable insulating material so that the two electrodes (6) and (7) with the electrical conductors (9) and sheath (12) can be cast into an integral unit.

5 The power source (3) for supplying a pulsed current to the probe (2) is shown in Figure 1 and includes a housing (20) which houses electronic circuitry designed in accordance with the function it is to perform and which is not shown or described in any further detail in this specification.

10 The power supply is connected as shown by cable (21) embodying the conductors (9) to the probe (2). Power for the power source is preferably from a 12 volt motor car battery and leads (22) are provided for connecting the power source to such a battery. The leads are provided at their ends with suitable clamps (23) for connecting to battery terminals.

The power source (3) has a front face (24) which incorporates an on/off switch (25) with an integral light which indicates whether the power supply is on.

15 Two dial type controls are provided. The first dial control (26) adjusts the voltage of the electrical supply to the probe (2) this voltage usually being between 2 and 10 Volts. The voltage is indicated by means of an LED display (27) above the dial (26).

The second dial (28) is used to adjust the frequency of the pulses of the electrical current supplied to the probe and the value of this frequency is indicated on an LED display (29) above the dial (28). A frequency of between 20 and 50 Hz has been found to be effective.

20 In use the power supply (3) is connected to a 12 Volt direct current source such as a car battery. A current of between about 250 mA to 400 mA has been found to work effectively. Currents lower than about 250 mA are not very effective while those above 400 mA have been found to be excessive.

The probe (2) is inserted into the anal canal of an animal which is intended to immobilise.

The power supply is turned on and the voltage and frequency of the current supply to the probe is adjusted in the above ranges to give the degree of immobility required. The

invention thus provides a device which can be beneficially used in the immobilising of
5 animals for procedures such as medical procedures, branding and the like.

Other embodiments are envisaged within the scope of the invention which includes other configurations and constructions thereof.

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CLAIMS

1. A device for use in immobilising animals comprising an elongated probe having a rear end and a front end for insertion into the anal canal of an animal, the probe having first and second electrodes spaced from each other on the outer surface thereof and electrical conductors extending from the electrodes and adapted for connection to an electrical power source.
2. A device as claimed in claim 1 in which the elongated probe is of right circular cylindrical configuration.
3. A device as claimed in claim 2 in which the front end is a tapered rounded tip.
4. A device as claimed in either of claims 2 in which the first electrode is of annular configuration and is located near the front end of the probe and the second electrode is of annular configuration and is located near to the first electrode.
5. A device as claimed in claim 4 in which the first and second electrodes are separated by an annular groove in the probe.
6. A device as claimed in either of claims 4 in which the second electrode extends from a position near the first electrode to the rear end of the probe.
7. A device as claimed in claim 1 in which the electrodes are stainless steel electrodes.
8. A device as claimed in claim 1 in which the first electrode is a positive electrode and the second electrode is a negative electrode.
9. A device as claimed in claim 1 in which there is an indicator light at the rear end of the probe.

10. A device as claimed in claim 1 in which the device includes a power source for connection to the electrical conductors, the power source being adapted to supply a pulsed or alternating electrical current to the electrodes.

11. A device as claimed in claim 10 in which the power source supplies an electrical current of between about 250 mA and 400 mA.

12. A device as claimed in 10 in which the power source supplies an electrical current having a potential of between 1 and 11 Volts.

13. A device as claimed in 12 in which the power source supplies an electrical current having a potential of between 2 and 10 Volts.

14. A device as claimed in 10 in which the power source supplies an electrical current having a frequency of between 20 and 50 Hz.

15. A device as claimed in 14 in which the power source supplies an electrical current having a frequency of about 30 Hz.

16. A method of immobilising an animal which includes inserting a probe having a pair of electrodes into the anal canal of the animal and applying an electrical current through the electrodes to the animal.

17. A method of immobilising an animal as claimed in claim 16 in which the electrical current is a pulsed current.

18. A method of immobilising an animal as claimed in claim 17 in which the electrical current has a frequency of between 20 and 50 Hz.

19. A method of immobilising an animal as claimed in claim 18 in which the electrical current has a frequency of 30 Hz.

20. A method of immobilising an animal as claimed in claim 16 in which the electrical current has a potential of between 1 and 11 volts.

5 21. A method of immobilising an animal as claimed in claim 20 in which the electrical current has a potential of between 2 and 10 volts.

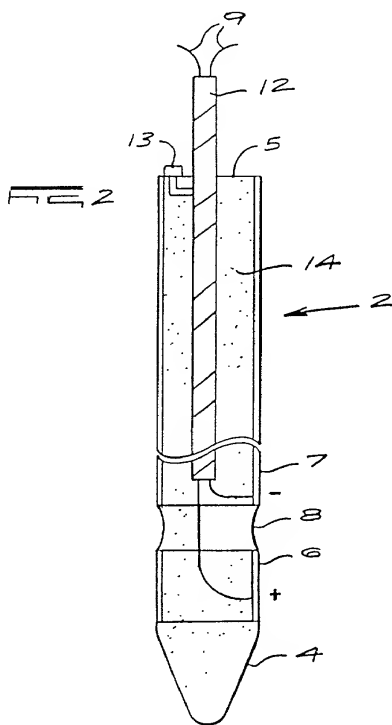
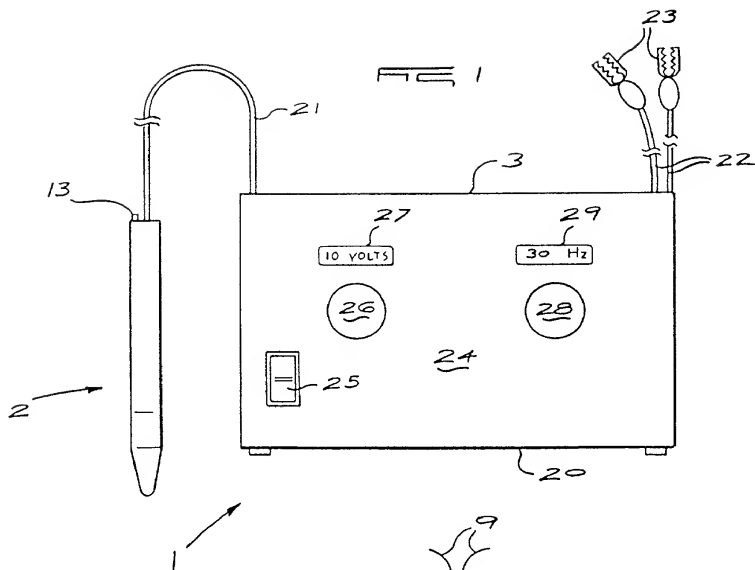
22. A method of immobilising an animal as claimed in claim 16 in which the electrical current is between about 250 and 400 mA.

23. A method of immobilising an animal as claimed in claim 16 in which the animal is an ungulate.

ABSTRACT

A01K

The invention provides a device for use in partially or fully immobilising animals such as cattle, sheep and the like. The device includes a probe for insertion in the anal canal of the animal the probe comprising a pair of spaced electrodes connected by way of electrical conductors to a power source. The power source providing a pulsed electrical current having a voltage of between 2 and 10 Volts and a frequency of between 20 and 50 Hz to the electrodes.



APPLICATION FOR UNITED STATES PATENT DECLARATION FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:
My residence, post office address and citizenship are as stated below next to my name.
I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on

(1) the invention entitled **IMMOBILISATION DEVICE**

the specification of which

(2) (file no. _____)

(check at least one)

(3) [X] is attached hereto.

(4) [] was filed on _____ as Application Serial No. _____

(6) and was amended on _____
(if applicable)

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(8) Number _____

(9) on _____

(10) and was amended under PCT Article 19

(11) on _____ (if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me which is material to patentability in accordance with Title 37, Code of Federal Regulations, s 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code s 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date earlier than that of the application(s) on which priority is claimed:

(12) Prior (Foreign) Application(s) any Priority Claims Under 35 U.S.C. 119

Priority Claimed

U S A	60/156,597	29.09.1999	[X]	[]
(Country)	(Number)	(Day/Month/Year Filed)	YES	NO
(Country)	(Number)	(Day/Month/Year Filed)	[]	[]
			YES	NO
(Country)	(Number)	(Day/Month/Year Filed)	[]	[]
			YES	NO

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I hereby claim the benefit under Title 35, United States Code, 120 of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, s 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, s 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

(U.S. Application Number) (U.S. Filing Date) Status (patented, pending, abandoned)

(U.S. Application Number) (U.S. Filing Date) Status (patented, pending, abandoned)

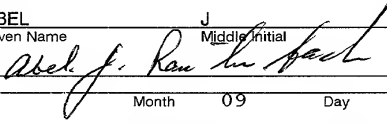
I hereby appoint the following partners of the firm of **BANNER & WITCOFF, LTD** as my attorneys of record with full power of substitution and revocation to prosecute this application and to transact all business in the Patent and Trademark Office:

I hereby appoint as principal attorneys: Donald W. Banner (17,037); Harold J. Birch (16,527); Edward F. McKie, Jr. (17,335); William W. Beckett (18,262); Dale H. Hoscheit (19,090); Joseph M. Potenza (28,175); Alan I. Cantor (28,163); James A. Niegowski (28,331); Joseph M. Skerpon (29,864); Thomas L. Peterson (30,969); Nina L. Medlock (29,673); William J. Fisher (32,133); and Thomas H. Jackson (29,808).

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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		Given Name	Middle Initial	Family Name
*15d	Inventor's Signature			
*16d	Date of Signature	Month	Day	Year
17d	Residence	City	State or Province	Country
18d	Citizenship			
19d	Post Office Address (Insert complete mailing address, including country)			

* Note to Inventor: Please sign name on line 15 exactly as it appears in line 14 and insert the actual date of signing on line 16. If there are more than four inventors please add a copy of this page for identification and signatures of the additional inventors.